



AFCTN Test Report 93-023

AFCTB-ID
92-042



Technical Publication Transfer

Using:

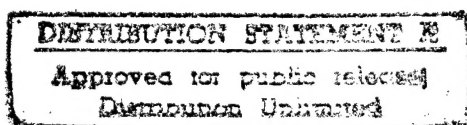


Northrop Corporation Data



MIL-D-28000A (IGES)

MIL-M-28001A (SGML)



Quick Short Test Report



07 August 1992

19960822 190



Prepared for
Electronic Systems Center

DTIC QUALITY INSPECTED 3

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Quick Short Test Report

7 August 1992

Prepared By

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DTIC QUALITY INSPECTED 3

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those Standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, taking only a few hours to set up and execute. They are used by the AFCTN technical staff to broaden the testing base by including representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the Standards, to increase the base of participation in the CALS initiative, and to respond, in a timely manner, to the many requests for help that come from participants. Participants take part voluntarily and are benefited by receiving an evaluation of their latest implementation (interpretation) of the Standards, interacting with the AFCTN technical staff, gaining experience in use of the Standards, and developing increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Northrop Corporation's interpretation and use of the CALS standards in transferring technical publication data. Northrop used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 92-042

Date of Evaluation: 7 August 1992

Evaluators: George Elwood
Air Force CALS Test Bed
HQ ESC/ENCP
Suite 200
4027 Colonel Glenn Hwy
Dayton, OH 45431-1672

Data Originator: Northrop Corporation
John Bean
8900 E. Washington Blvd
Pico Rivera, CA 90660

Data Description: Technical Manual Test
2 Document Declaration files
1 Document Type Definition (DTD)
103 Initial Graphics Exchange Specification (IGES) files
2 Text files

Data Source System:

IGES

HARDWARE Unknown

SOFTWARE IBM CADAM R19.2 IGESP 2.1

Text/Standard Generalized Markup Language (SGML)

HARDWARE Unknown

SOFTWARE Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.8 UNIX
AGFA Compugraphics CAPS/CALS v40.4
Cheetah Gold 486
USLynx 1840A Tape Handler
AFCTN Tapetool v1.2.8 DOS

MIL-D-28000 (IGES)

SUN 3/60

Rosetta Technologies Preview v3.2
IGES Data Analysis (IDA) IGESview v2.0
IDA IGES Parser/Verifier
Sun SparcStation 2
International TechneGroup Incorporated
(ITI) IGES/Works
Rosetta Technologies Preview v3.2
ArborText iges2draw
Island Graphics IslandDraw
AGFA Compugraphics CAPS ig2ps v6.0x
HP PA RISC 7000
Carberry CADLeaf 3.0
Cheetah Gold 486
Autodesk AutoCAD 386 R11
Cadkey CADKEY v4.06
IDA IGES Parser/Verifier

MIL-M-28001 (SGML)

SUN SparcStation 2

ArborText ADEPT v4.2.1
AGFA Compugraphics CAPS v6.0x

SUN 3/60

AGFA Compugraphics CALS
Cheetah Gold 486
Exoterica XGMLNormalizer v1.2e3.2
Datalogics ParserStation v3.36

Standards

Tested:

MIL-STD-1840A
MIL-D-28000A
MIL-M-28001A

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was not marked with the magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was not enclosed in a barrier bag material, as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed a lack of the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Some 9-track tape units require this BPI to be set manually. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The 1840A tape was run through the AFCTN *Tapetool* v1.2.8 utility. No errors were reported while evaluating the contents of the tape labels.

3.2.2 Declaration and Header Fields

No errors were reported in the Document Declaration file or data file headers.

*** Entity type: 110

ERROR 4025: CALS Class I requires matrix pointer to be zero at D 9.

						— Must be zero				
						vvv				
110	5	1	1	0	5	7	0	20301D	9	
110	1	0	1	0				6D	10	

The next reported error was with entity 406. MIL-D-28000A, Table I, permit values of 15, 16, 17, or 18.

*** Entity type: 406

ERROR 4042: Illegal form for CALS Class I specified at D 5405.

406	4292	1	1	0	5	0	0	10001D	5405	
406	2	0	1	5001				2703D	5406	

				—	Form must be 15 - 18					

Several basic IGES errors were also reported during the evaluation. The complete parser log for both file D001Q002 and D001Q080 are included in the Appendix of this report.

The IGES files were also tested using the commercial IGES utilities available in the AFCTB.

Autodesk's AutoCAD R11 would not translate the file. It reported an error "Couldn't continue reading a string in column 13 of record 3".

Cadkey's CADKEY v4.06 was able to translate the file and display it on the screen. A hard copy is included in the Appendix of this report. On file D001Q080 the belt detail is shown as solid lines while the other outputs show them as dotted lines.

Carberry's CADLeaf v3.0 would not import the file. An error message was generated indicating a missing or corrupt global section.

ITI's IGES/Works was able to translate the file with reported errors. The file was displayed and hard copies are included in the Appendix of this report.

IDA's IGESView was able to translate the file without reported errors. The image displayed and hard copies are

included in the Appendix of this report. Noted variations in file D001Q002 were the missing end of the pin in the lower right corner and text overflows.

ArborText's *iges2draw* converter translated the file without a reported error. The converted file was then displayed and printed using Island Graphics' *IslandDraw*. Noted variation in file D001Q002 were the missing end of the pin in the lower right corner and text overflows. In file D001Q080 the hole detail on the inertia reel are not complete.

Rosetta Technologies' *Prepare* imported the file with a reported error. The file displayed and printed without a problem using Rosetta Technologies' *Preview*. Hard copies are included in the Appendix of this report. The reported error would indicate that the basic IGES file format was off by one character. The *Prepare* error log is not included due to the size.

5. SGML Analysis

The DTD on the tape was parsed using Exoterica's *XGMLNormalizer*. No errors were reported during this process. The Text file was then processed using the compiled DTD and one error was reported. The error relates to a missing IGES reference call. This was added to the DTD and the Text file parsed without any errors.

The corrected DTD was also parsed using Datalogics' *ParseStation*. No errors were reported during this process. The Text file also parsed without a reported error.

The corrected DTD was parsed using the ArborText's *Adept* parser. No errors were reported. The Text file also parsed without any errors.

The FOSI provided on the tape is based on 28001A. The ArborText *Adept* software available in the AFCTB does not have the capability to use this FOSI.

6. Raster Analysis

No Raster files were included on this tape.

7. CGM Analysis

No Computer Graphics Metafile (CGM) files were included on this tape.

8. Conclusions and Recommendations

In summary, the MIL-STD-1840A tape from Northrop Corporation was correct. The tape could be read properly using the AFCTN Tapetool and other tape utilities available in the AFCTB without a reported error. The physical structure of the tape meets the CALS MIL-STD-1840A requirements.

The IGES files did not meet the CALS MIL-D-28000A specification. Errors in the start, global and DE sections were noted. The basic files, as they were read off the tape, had some errors which prevented several of the IGES translator, available in the AFCTB, from reading the files.

The provided DTD was missing the IGES reference which caused an error during the parsing of the Text file. The SGML files did not meet the CALS MIL-M-28001A specification.

The tape did not meet the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

Standards referenced:

- MIL-STD-1840A (1987) - Automated Interchange of Technical Information
- ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
for Information Interchange
- ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Wed Jul 29 08:48:29 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set071

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D001Q001	IGES	F/00080	02000/000458	Extracted
D001Q002	IGES	F/00080	02000/000520	Extracted
D001Q003	IGES	F/00080	02000/000545	Extracted
D001Q004	IGES	F/00080	02000/000519	Extracted

<<<<< PART OF LOG REMOVED HERE >>>>>

D001Q102	IGES	F/00080	02000/000119	Extracted
D001Q103	IGES	F/00080	02000/000119	Extracted
D001G104	DTD	D/00260	02048/000014	Extracted
D001T105	Text	D/00260	02048/000063	Extracted
D001H106	Output Specification	D/00260	02048/000088	Extracted
D002T001	Text	D/00260	02048/000021	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release Number 8

Standards referenced:

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Wed Jul 29 08:31:54 1992

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01

CONTROLLER

4

Label Identifier: VOL1
Volume Identifier: ITDS01
Volume Accessibility:
Owner Identifier:
Label Standard Version: 4

HDR1D001

ITDS0100010001000100 92198 92198 000000 CONTROLLER

Label Identifier: HDR1
File Identifier: D001
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0001
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000000
Implementation Identifier: CONTROLLER

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 1.

***** Tape Mark *****

EOF1D002 ITDS0100010002000100 92198 92198 000001 CONTROLLER

Label Identifier: EOF1
File Identifier: D002
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0002
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000001
Implementation Identifier: CONTROLLER

EOF2D0204800260

00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

HDR1D001Q001 ITDS0100010003000100 92198 92198 000000 CONTROLLER

Label Identifier: HDR1
File Identifier: D001Q001
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0003

Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000000
Implementation Identifier: CONTROLLER

HDR2F0200000080

00

Label Identifier: HDR2
Recording Format: F
Block Length: 02000
Record Length: 00080
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2000 Bytes.

Number of data blocks read = 458.

***** Tape Mark *****

EOF1D001Q001

ITDS0100010003000100 92198 92198 000458 CONTROLLER

Label Identifier: EOF1
File Identifier: D001Q001
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0003
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000458
Implementation Identifier: CONTROLLER

EOF2F0200000080

00

Label Identifier: EOF2
Recording Format: F
Block Length: 02000
Record Length: 00080
Offset Length: 00

***** Tape Mark *****

<<<<< PART OF LOG REMOVED HERE >>>>>

***** Tape Mark *****

HDR1D001Q103 ITDS0100010105000100 92198 92198 000000 CONTROLLER

Label Identifier: HDR1
File Identifier: D001Q103
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0105
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000000
Implementation Identifier: CONTROLLER

HDR2F0200000080

00

Label Identifier: HDR2
Recording Format: F
Block Length: 02000
Record Length: 00080
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2000 Bytes.

Number of data blocks read = 119.

***** Tape Mark *****

EOF1D001Q103 ITDS0100010105000100 92198 92198 000119 CONTROLLER

Label Identifier: EOF1
File Identifier: D001Q103
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0105
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198

File Accessibility:
Block Count: 000119
Implementation Identifier: CONTROLLER

EOF2F0200000080

00

Label Identifier: EOF2
Recording Format: F
Block Length: 02000
Record Length: 00080
Offset Length: 00

***** Tape Mark *****

HDR1D001G104 ITDS0100010106000100 92198 92198 000000 CONTROLLER

Label Identifier: HDR1
File Identifier: D001G104
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0106
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000000
Implementation Identifier: CONTROLLER

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 14.

***** Tape Mark *****

EOF1D001G104 ITDS0100010106000100 92198 92198 000014 CONTROLLER

Label Identifier: EOF1

File Identifier: D001G104
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0106
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000014
Implementation Identifier: CONTROLLER

EOF2D0204800260

00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

HDR1D001T105 ITDS0100010107000100 92198 92198 000000 CONTROLLER

Label Identifier: HDR1
File Identifier: D001T105
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0107
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000000
Implementation Identifier: CONTROLLER

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

***** Tape Mark *****

```
Label Identifier: EOF1
File Identifier: D001T105
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0107
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000063
Implementation Identifier: CONTROLLER
```

```
Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00
```

***** Tape Mark *****

```
Label Identifier: HDR1
File Identifier: D001H106
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0108
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000000
Implementation Identifier: CONTROLLER
```

Label Identifier: HDR2

Expiration Date: 92198
File Accessibility:
Block Count: 000000
Implementation Identifier: CONTROLLER

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 21.

***** Tape Mark *****

EOF1D002T001 ITDS0100010109000100 92198 92198 000021 CONTROLLER

Label Identifier: EOF1
File Identifier: D002T001
File Set Identifier: ITDS01
File Section Number: 0001
File Sequence Number: 0109
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92198
Expiration Date: 92198
File Accessibility:
Block Count: 000021
Implementation Identifier: CONTROLLER

EOF2D0204800260

00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

***** Tape Mark *****

End of Volume ITDS01

End Of Tape File Set

Deallocating /dev/rmt0...

Tape Import Process terminated with 0 error(s), 0 warning(s),
and 0 note(s).

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release Number 8

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

MIL-R-28002 (1989) - Raster Graphics Representation In Binary
Format, Requirements For

Wed Jul 29 08:48:29 1992

MIL-STD-1840A File Set Evaluation Log

File Set: Set071

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: John G. Bean, ITDS User System Program Manager, Northrop Corporation, B-2 D
MS L595/XY, 8900 E. Washington Blvd., Pico Rivera, CA 90660, (310)
942-6553

srcdocid: 1B-2A-2-95JG-10-1

srcrelid: NONE

chglvl: ORIGINAL

dteisu: 19900716

dstsys: Fred Pingle, ASD/YSSP, Gary Lammers, Manager, USAF CALS Test Bed, HQ AFMC (TecneCenter, 4027 Col. Glen Highway, Dayton, OH 45431-1601, In Turn

dstdocid: 1B-2A-2-95JG-10-1

dstrelid: NONE

dtetrm: 19920715

dlvacc: NONE

filcnt: T1, H1, G1, Q103

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: JOB GUIDE

docttl: CREW ESCAPE AND SAFETY EJECTION SEATS

Found file: D001Q001

Extracting IGES Header Records...

Evaluating IGES Header Records...

srcdocid: 1B-2A-2-95JG-10-1

dstdocid: 1B-2A-2-95JG-10-1

txtfilid: W

figid: NONE

srcgph: B2AJG9510-0005

doccls: UNCLASSIFIED

notes: NONE

Saving IGES Header File: D001Q001_HDR
Saving IGES Data File: D001Q001_IGS

<<<<< PART OF LOG REMOVED HERE >>>>>

Found file: D001Q103
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: 1B-2A-2-95JG-10-1
dstdocid: 1B-2A-2-95JG-10-1
txtfilid: W
figid: NONE
srcgph: B2AJG9510-0005
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D001Q103_HDR
Saving IGES Data File: D001Q103_IGS

Found file: D001G104
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: 1B-2A-2-95JG-10-1
dstdocid: 1B-2A-2-95JG-10-1
notes: NONE

Saving DTD Header File: D001G104_HDR
Saving DTD Data File: D001G104_DTD

Found file: D001T105
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: 1B-2A-2-95JG-10-1
dstdocid: 1B-2A-2-95JG-10-1
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE

Saving Text Header File: D001T105_HDR
Saving Text Data File: D001T105_TXT

Found file: D001H106
Extracting Output Specification Header Records...

Evaluating Output Specification Header Records...

srcdocid: 1B-2A-2-95JG-10-1
dstdocid: 1B-2A-2-95JG-10-1
notes: NONE

Saving Output Specification Header File: D001H106_HDR
Saving Output Specification Data File: D001H106_OS

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

Found file: D002
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John G. Bean, ITDS User System Program Manager, Northrop Corporation, B-2 D
L595/XY, 8900 E. Washington Blvd., Pico Rivera, CA 90660, (310)
942-6553
srcdocid: B2JGOSDTD
srcrelid: NONE
chglvl: ORIGINAL
dteis: 19920715
dstsys: Fred Pingle, ASD/YSSP, Gary Lammers, Manager, USAF CALS Test Bed, HQ AFMC (
TecneCenter, 4027 Col. Glen Highway, Dayton, OH 45431-1601, In Turn
dstdocid: B2JGOSDTD
dstrelid: NONE
dtetrm: 19920715
dlvacc: NONE
filcnt: T1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: JOB GUIDE OS DTD
docttl: NONE

Found file: D002T001
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: B2JGOSDTD

dstdocid: B2JGOSDTD
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE

Saving Text Header File: D002T001_HDR
Saving Text Data File: D002T001_TXT

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D002.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - Detail IGES Analysis

10.1 File D001Q002

10.1.1 Parser/Verifier Log

```
*** IGES DATA FILE ANALYSIS ***
***      AUGUST 1991      ***
***   IGES Data Analysis   ***
***   (708) 449-3430      ***
```

Input file is \9242\q002.igs

Checking for conformance to CALS Class I

Today is July 31, 1992 10:23 AM

*** File and Product Name Information ***

```
File name from sender    = 'IBM CADAM R19.2 IGESP 2.1'
File creation Date.Time  = ''
Model change Date.Time   = ''
Author                   = ''
Department               = ''
Product name from sender = '
500BUTX259361104,'
Destination product name = ''
```

*** Parameter Delimiters ***

```
Delimiter = ','
Terminator = ';' 
```

*** Originating System Data ***

```
System ID      = '2.0'
Preprocessor version = ''
Specification version = 3 (IGES 2.0)
```

ERROR 4048: Illegal specification version for CALS Class I specified.

*** Precision levels ***

```
Integer bits =      8
Floating point - Exponent =    24  Mantissa =      8
Double precision - Exponent =    56  Mantissa =      0
```

*** Global Model Data ***

Model scale = 1.0000E+000
Unit flag = 4
Units = ''
Line weights = 0
NITPICK 2326: Number of line weights must be between 1 and 32768.
Maximum line thickness = 1.300000E+001
Minimum line thickness = 0.000000E+000
Granularity = 0.000000E+000
CAUTION 2319: Minimum intended resolution is to be absolute. Value defaulted to 1.0
Maximum coordinate = 0.000000E+000
CAUTION 2316: Maximum coordinate value in data is to be zero.

Drafting standard applicable to original data is not specified.
WARNING 2314: Line width specified at D 9 exceeds declared maximum.
WARNING 2314: Line width specified at D 11 exceeds declared maximum.
WARNING 2314: Messages suppressed

*** Status Flag Summary ***

Blank status:	Visible	3354
	Blanked	0
Independence:	Independent	3320
	Physically Subordinate	8
	Logically Subordinate	26
	Totally Subordinate	0
Entity use:	Geometry	3303
	Annotation	23
	Definition	0
	Other	28
	Logical/Positional	0
	2D parametric	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	3354
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
-----	-----	-----	-----	-----
100	0	0	48	Circular arc
104	1	0	814	Conic arc - ellipse
110	0	0	1554	Line
112	0	0	89	Parametric spline curve
124	0	0	816	Transformation matrix
212	0	0	23	General note
404	0	0	1	Drawing
+ 406	5001	0	8	Implementor entity instance
410	0	0	1	View - Orthographic parallel

+ Indicates use of a Implementor defined form or entity.

*** Entity Count by Level ***

Level	Count
0	3354

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 3354

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
48	-	810	-	-	1545	89	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	4	-	-	7	-	-	Phantom
-	-	-	-	-	2	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined
116	118	120	122	124	125	126	128	
-	-	-	-	816	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line

-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-----	-----	-----	-----	-----	-----	-----	-----	--

-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	841	(0.0000)
1	549	(0.0000)
2	1963	(0.0000)
3	1	(0.0000)

*** Colors Used in Data ***

Defaulted 3354

 ***** ENTITY ANALYSIS *****

*** Entity type: 100

ERROR 4037: CALS Class I requires zero view pointer at D 45.
 ERROR 4037: CALS Class I requires zero view pointer at D 47.
 ERROR 4037: Messages regarding non-zero view pointers suppressed.
 ERROR 2242: Radii not equal at D 6643; difference is 1.369685E-006.
 ERROR 2242: Radii not equal at D 6659; difference is 1.206438E-006.
 ERROR 2242: Radii not equal at D 6681; difference is 1.046549E-006.

*** Entity type: 104

WARNING 2081: Form number and data for conic contradictory at D 35.
 WARNING 2081: Form number and data for conic contradictory at D 3179.
 WARNING 2081: Form number and data for conic contradictory at D 3183.
 WARNING 2039: End point off conic at D 3187 by 1.878581E-006.
 WARNING 2265: Start point off conic at D 3211 by 3.802191E-006.

WARNING 2081: Messages regarding contradictory form numbers for conic suppressed.
WARNING 2039: Messages regarding conic end points suppressed.
WARNING 2265: Messages regarding invalid start point suppressed.
SEVERE 2029: Degenerate conic at D 5489.
SEVERE 2029: Degenerate conic at D 5497.
SEVERE 2029: Degenerate conic at D 5501.

*** Entity type: 110

ERROR 4025: CALS Class I requires matrix pointer to be zero at D 9.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 11.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 13.
ERROR 4025: Messages regarding non-zero matrix pointers suppressed.
-- 1554 lines averaging 7.608667E-002 units --

*** Entity type: 112

WARNING 2002: 1 discontinuities in spline curve at D 3693, largest is 3.213993E-0
WARNING 2002: 1 discontinuities in spline curve at D 4089, largest is 7.707940E-0
WARNING 2002: 1 discontinuities in spline curve at D 4091, largest is 4.220210E-0
WARNING 2002: Messages regarding discontinuities in spline curve suppressed.

*** Entity type: 124

816 transformation matrices, 814 non-zero translations.
NOTE 2341: 814 matrices contain translation information.

*** Entity type: 212

24 text strings in data file.
Average text aspect ratio in file is 0.9532383.
Minimum text aspect ratio in file is 0.9523807.
Maximum text aspect ratio in file is 0.9729599.

FONTS USED IN FILE

FONT	COUNT	NAME
1	23	Default ASCII Style
1002	1	Symbol Font 2

*** Entity type: 404

Drawing at D 1 contains 1 views.
NITPICK 2289: View at D 5 referenced by drawing at D 1 is not Logically s
Drawing at D 1 contains 0 annotation entities.
ERROR 4019: CALS Class I requires exactly one property pointer at D 1.
ERROR 4009: CALS Class I requires a pointer to a Drawing Size Property at D

*** Entity type: 406

ERROR 4042: Illegal form for CALS Class I specified at D 5405.
ERROR 4042: Illegal form for CALS Class I specified at D 5409.
ERROR 4042: Illegal form for CALS Class I specified at D 6491.

*** Entity type: 410

CAUTION 2332: View attributes are not subordinate (orphan view?) at D 5.
Scale of view at D 5 is 1.000000E+000.
Orthographic View entity at D 5 has 0 clipping planes specified.
XMIN = Not Set XMAX = Not Set
YMIN = Not Set YMAX = Not Set
ZMIN = Not Set ZMAX = Not Set

*** Message Summary ***

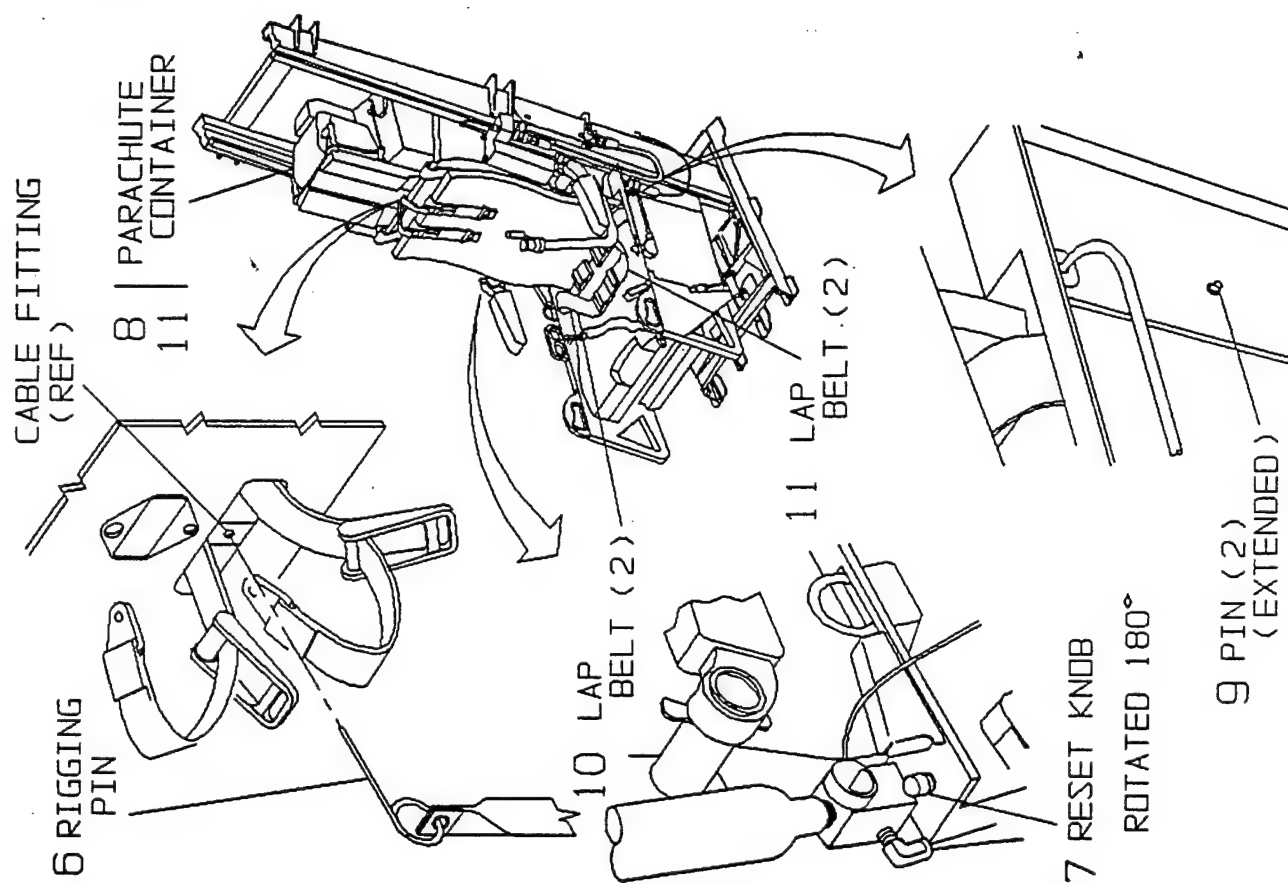
2007: 11 Mathematical discontinuities.
2008: 662 Invalid form numbers.
2011: 1 Invalid subordinate relationships.
2015: 67 Mathematically incorrect definitions.
2018: 2514 Problems with line weight/width display information.
4000: 1 Miscellaneous CALS messages
4008: 1 Missing properties
4011: 1 Problems in the Global section
4013: 1667 Non-zero matrix pointers
4014: 2528 Non-zero view pointers
4019: 8 Entities with illegal form

*** Error Summary ***

0 fatal errors
4 severe errors
4209 errors
3246 warnings
3 cautions
2 nitpicks
1 notes

*** End of Analysis of \9242\q002.igs ***

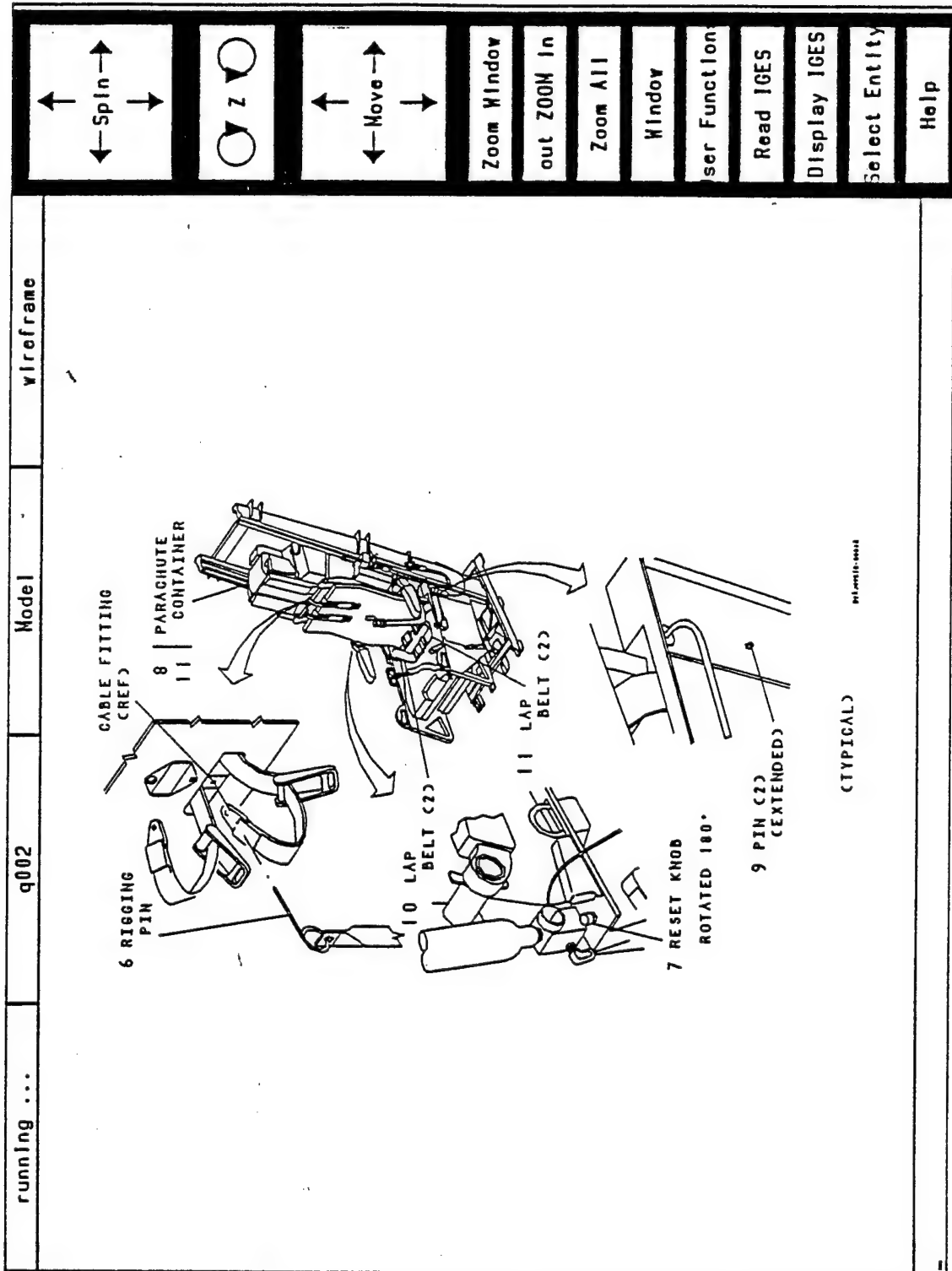
10.1.2 Output Cadkey v4.06



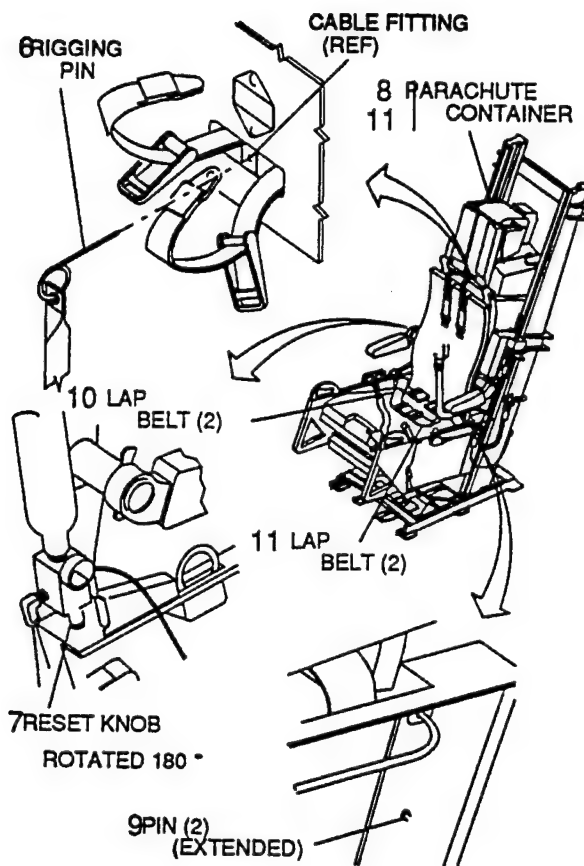
(TYPICAL)

EAJL02510-0002A

10.1.3 Output IGESWorks

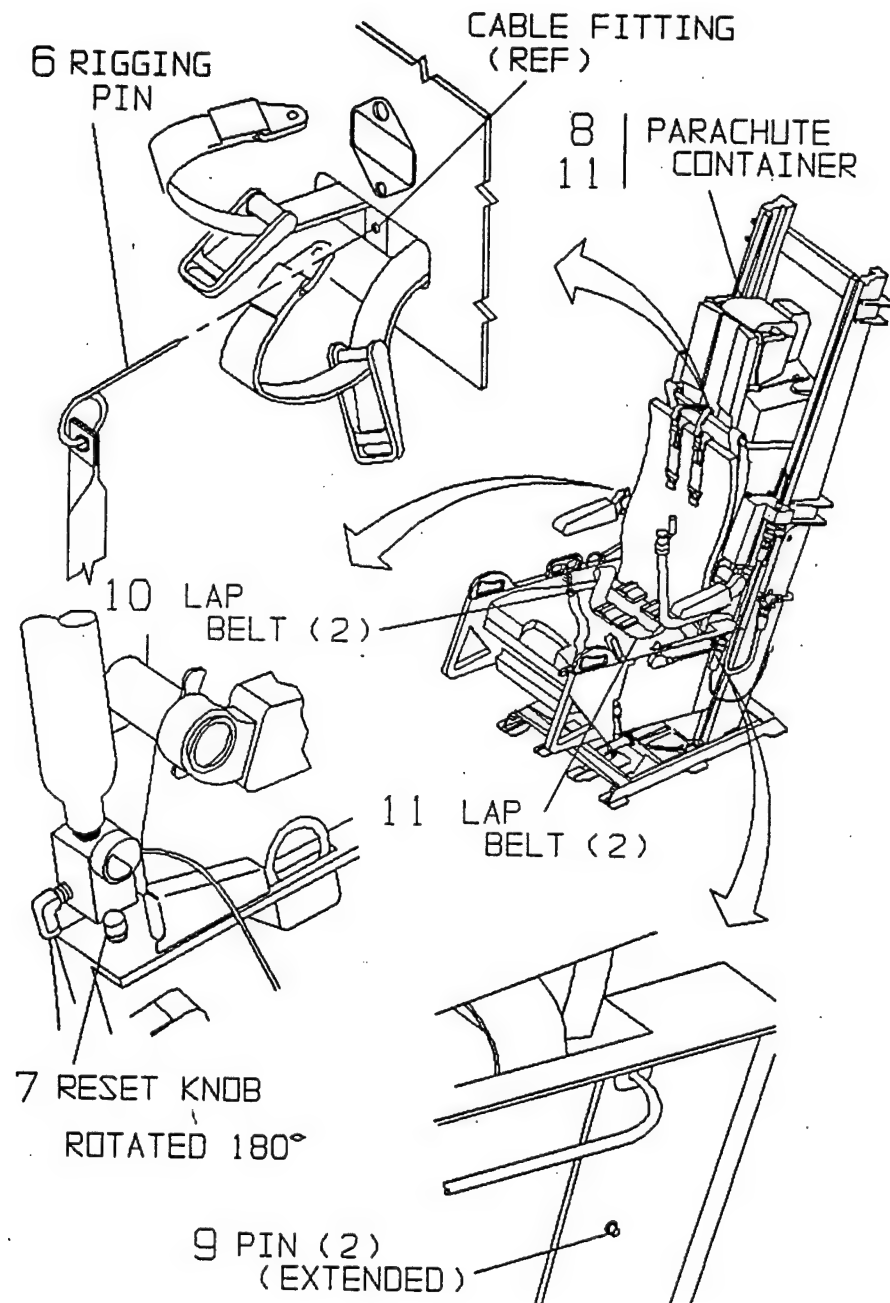


10.1.4 Output IGESView



(TYPICAL)

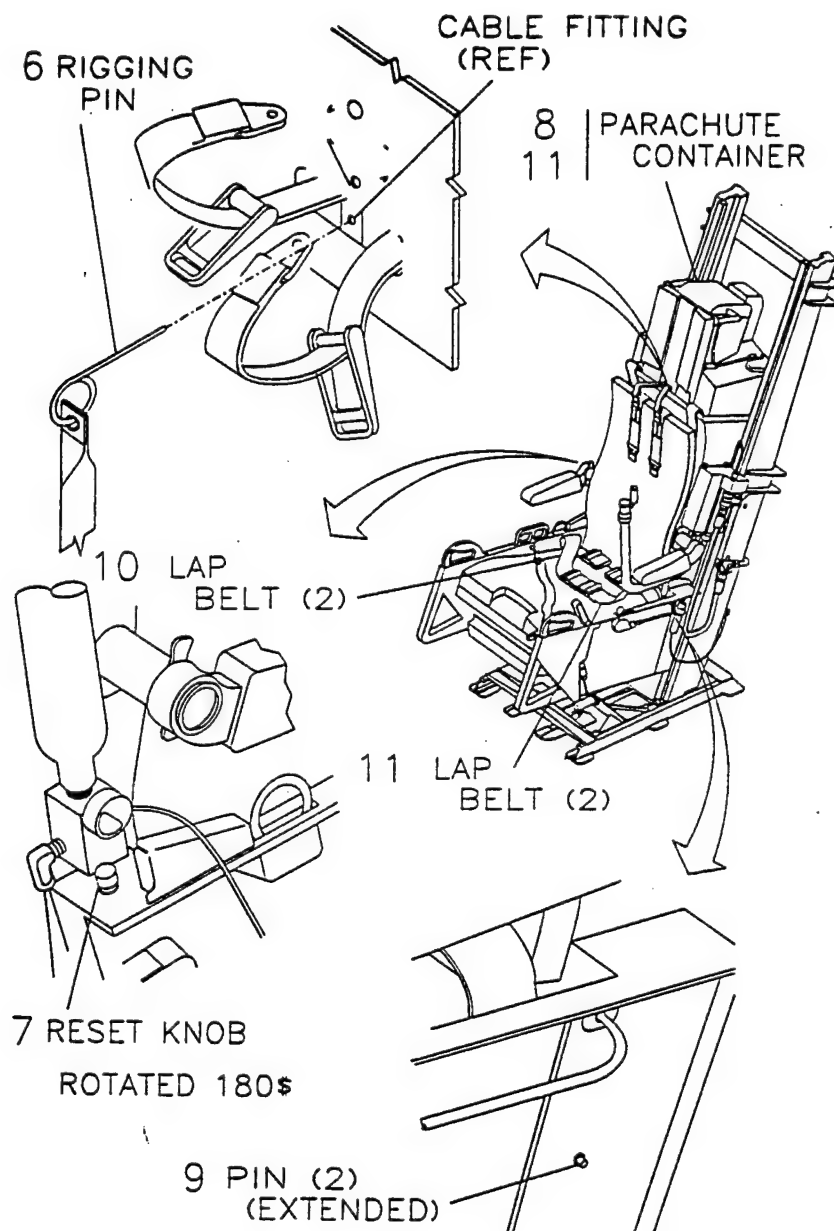
10.1.5 Output Island Draw



(TYPICAL)

B2A-02510-0002A

10.1.6 Output Preview



(TYPICAL)

82AJ09510-0008A

10.2 File D001Q080

10.2.1 Parser/Verifier Log

```
*** IGES DATA FILE ANALYSIS ***  
***      AUGUST 1991      ***  
***   IGES Data Analysis   ***  
***   (708) 449-3430      ***
```

Input file is \9242\q080.igs

Checking for conformance to CALS Class I

Today is July 31, 1992 10:25 AM

*** File and Product Name Information ***

```
File name from sender      = 'IBM CADAM R19.2 IGESP 2.1'  
File creation Date.Time    = ''  
Model change Date.Time     = ''  
Author                     = ''  
Department                  = ''  
Product name from sender   = '  
500BUTX265341018,'  
Destination product name   = ''
```

*** Parameter Delimiters ***

```
Delimiter = ','  
Terminator = ';' 
```

*** Originating System Data ***

```
System ID          = '2.0'  
Preprocessor version = ''  
Specification version = 3 (IGES 2.0)
```

ERROR 4048: Illegal specification version for CALS Class I specified.

*** Precision levels ***

```
Integer bits =      8  
Floating point - Exponent =    24 Mantissa =      8  
Double precision - Exponent =    56 Mantissa =      0
```

*** Global Model Data ***

```
Model scale          = 1.0000E+000
```

Unit flag = 4
 Units = ''
 Line weights = 0
 NITPICK 2326: Number of line weights must be between 1 and 32768.
 Maximum line thickness = 1.300000E+001
 Minimum line thickness = 0.000000E+000
 Granularity = 0.000000E+000
 CAUTION 2319: Minimum intended resolution is to be absolute. Value defaulted to 1.0
 Maximum coordinate = 0.000000E+000
 CAUTION 2316: Maximum coordinate value in data is to be zero.

Drafting standard applicable to original data is not specified.
 WARNING 2314: Line width specified at D 9 exceeds declared maximum.
 WARNING 2314: Line width specified at D 11 exceeds declared maximum.
 WARNING 2314: Messages suppressed

*** Status Flag Summary ***

Blank status:	Visible	1251
	Blanked	0
Independence:	Independent	1105
	Physically Subordinate	3
	Logically Subordinate	143
	Totally Subordinate	0
Entity use:	Geometry	1093
	Annotation	13
	Definition	0
	Other	145
	Logical/Positional	0
	2D parametric	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	1251
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
-----	----	-----	-----	----
100	0	0	55	Circular arc
104	1	0	292	Conic arc - ellipse
110	0	0	566	Line

112	0	0	26	Parametric spline curve
124	0	0	294	Transformation matrix
212	0	0	13	General note
404	0	0	1	Drawing
+ 406	5001	0	3	Implementor entity instance
410	0	0	1	View - Orthographic parallel

+ Indicates use of a Implementor defined form or entity.

*** Entity Count by Level ***

Level	Count
0	1251

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled	1251
-----------	------

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114
-----	-----	-----	-----	-----	-----	-----	-----

-	-	-	-	-	-	-	-	Undefined
26	-	200	-	-	293	16	-	Solid
-	-	2	-	-	4	-	-	Dashed
29	-	90	-	-	265	10	-	Phantom
-	-	-	-	-	4	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128
-----	-----	-----	-----	-----	-----	-----	-----

-	-	-	-	294	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144
-----	-----	-----	-----	-----	-----	-----	-----

-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed

-	-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	309	(0.0000)
1	908	(0.0000)
2	26	(0.0000)
3	8	(0.0000)

*** Colors Used in Data ***

Defaulted 1251

***** ENTITY ANALYSIS *****

*** Entity type: 100

ERROR 4037: CALS Class I requires zero view pointer at D 2393.
 ERROR 4037: CALS Class I requires zero view pointer at D 2395.
 ERROR 4037: Messages regarding non-zero view pointers suppressed.
 ERROR 2242: Radii not equal at D 2417; difference is 1.659361E-006.

*** Entity type: 104

WARNING 2039: End point off conic at D 123 by 5.089923E-006.
 WARNING 2039: End point off conic at D 135 by 2.126003E-006.
 WARNING 2039: End point off conic at D 139 by 3.261526E-005.
 WARNING 2265: Start point off conic at D 143 by 1.229675E-005.
 WARNING 2039: End point off conic at D 143 by 1.214250E-005.
 WARNING 2081: Form number and data for conic contradictory at D 151.
 WARNING 2039: End point off conic at D 155 by 3.261526E-005.
 WARNING 2081: Form number and data for conic contradictory at D 159.
 WARNING 2265: Start point off conic at D 163 by 1.229675E-005.
 WARNING 2039: Messages regarding conic end points suppressed.
 WARNING 2081: Messages regarding contradictory form numbers for conic suppressed.
 WARNING 2265: Messages regarding invalid start point suppressed.

*** Entity type: 110

ERROR 4025: CALS Class I requires matrix pointer to be zero at D 9.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 11.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 13.
ERROR 4025: Messages regarding non-zero matrix pointers suppressed.
-- 566 lines averaging 1.419061E-001 units --

*** Entity type: 112

*** Entity type: 124

294 transformation matrices, 292 non-zero translations.
NOTE 2341: 292 matrices contain translation information.

*** Entity type: 212

13 text strings in data file.
Average text aspect ratio in file is 0.9539639.
Minimum text aspect ratio in file is 0.9523807.
Maximum text aspect ratio in file is 0.9729599.

FONTs USED IN FILE

FONT	COUNT	NAME
1	13	Default ASCII Style

*** Entity type: 404

Drawing at D 1 contains 1 views.
NITPICK 2289: View at D 5 referenced by drawing at D 1 is not Logically subordinate.
Drawing at D 1 contains 0 annotation entities.
ERROR 4019: CALS Class I requires exactly one property pointer at D 1.
ERROR 4009: CALS Class I requires a pointer to a Drawing Size Property at D

*** Entity type: 406

ERROR 4042: Illegal form for CALS Class I specified at D 1693.
ERROR 4042: Illegal form for CALS Class I specified at D 1697.
ERROR 4042: Illegal form for CALS Class I specified at D 2335.

*** Entity type: 410

CAUTION 2332: View attributes are not subordinate (orphan view?) at D 5.
Scale of view at D 5 is 1.000000E+000.

Orthographic View entity at D 5 has 0 clipping planes specified.

XMIN = Not Set	XMAX = Not Set
YMIN = Not Set	YMAX = Not Set
ZMIN = Not Set	ZMAX = Not Set

*** Message Summary ***

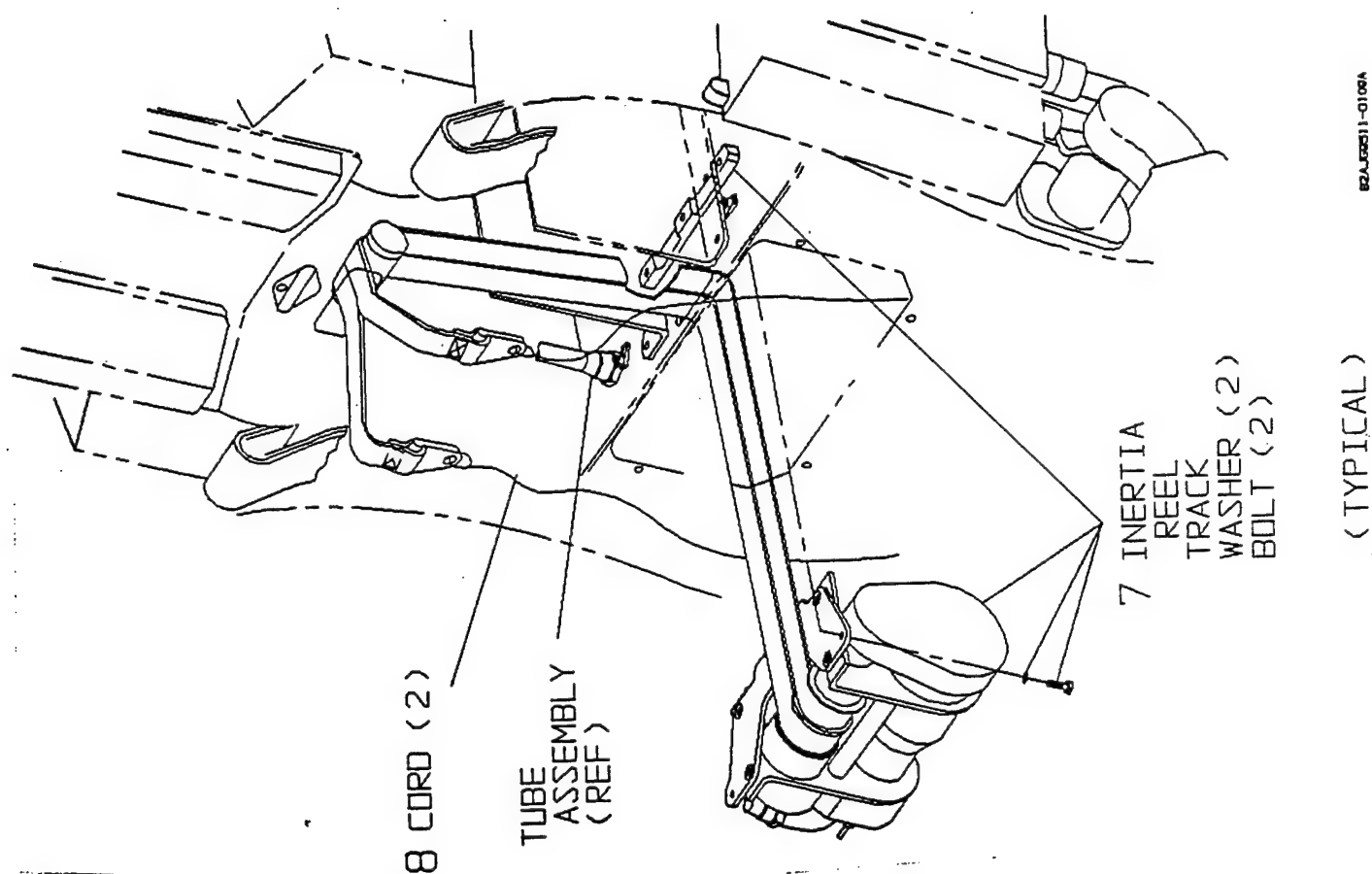
2008: 164 Invalid form numbers.
2011: 1 Invalid subordinate relationships.
2015: 42 Mathematically incorrect definitions.
2018: 943 Problems with line weight/width display information.
4000: 1 Miscellaneous CALS messages
4008: 1 Missing properties
4011: 1 Problems in the Global section
4013: 606 Non-zero matrix pointers
4014: 952 Non-zero view pointers
4019: 3 Entities with illegal form

*** Error Summary ***

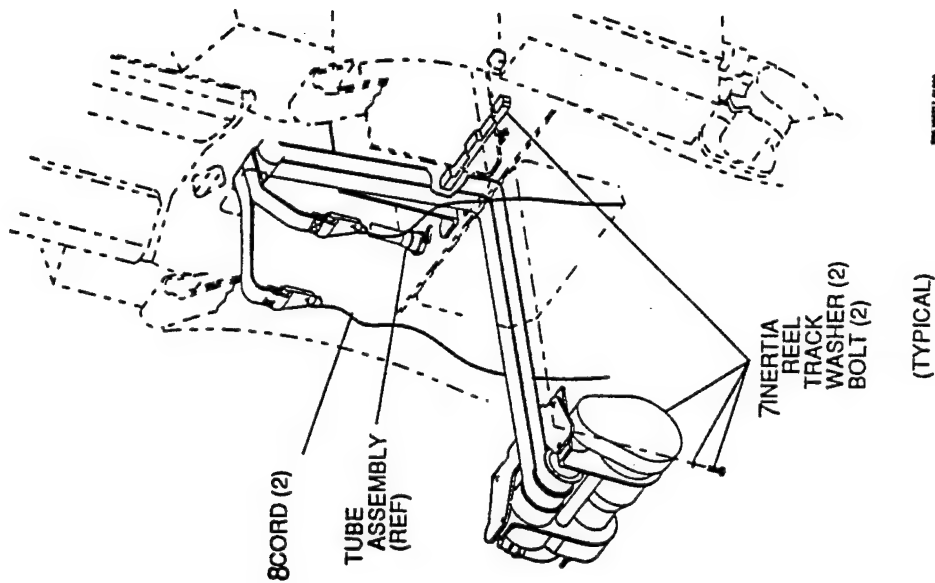
0 fatal errors
0 severe errors
1565 errors
1147 warnings
3 cautions
2 nitpicks
1 notes

*** End of Analysis of \9242\q080.igs ***

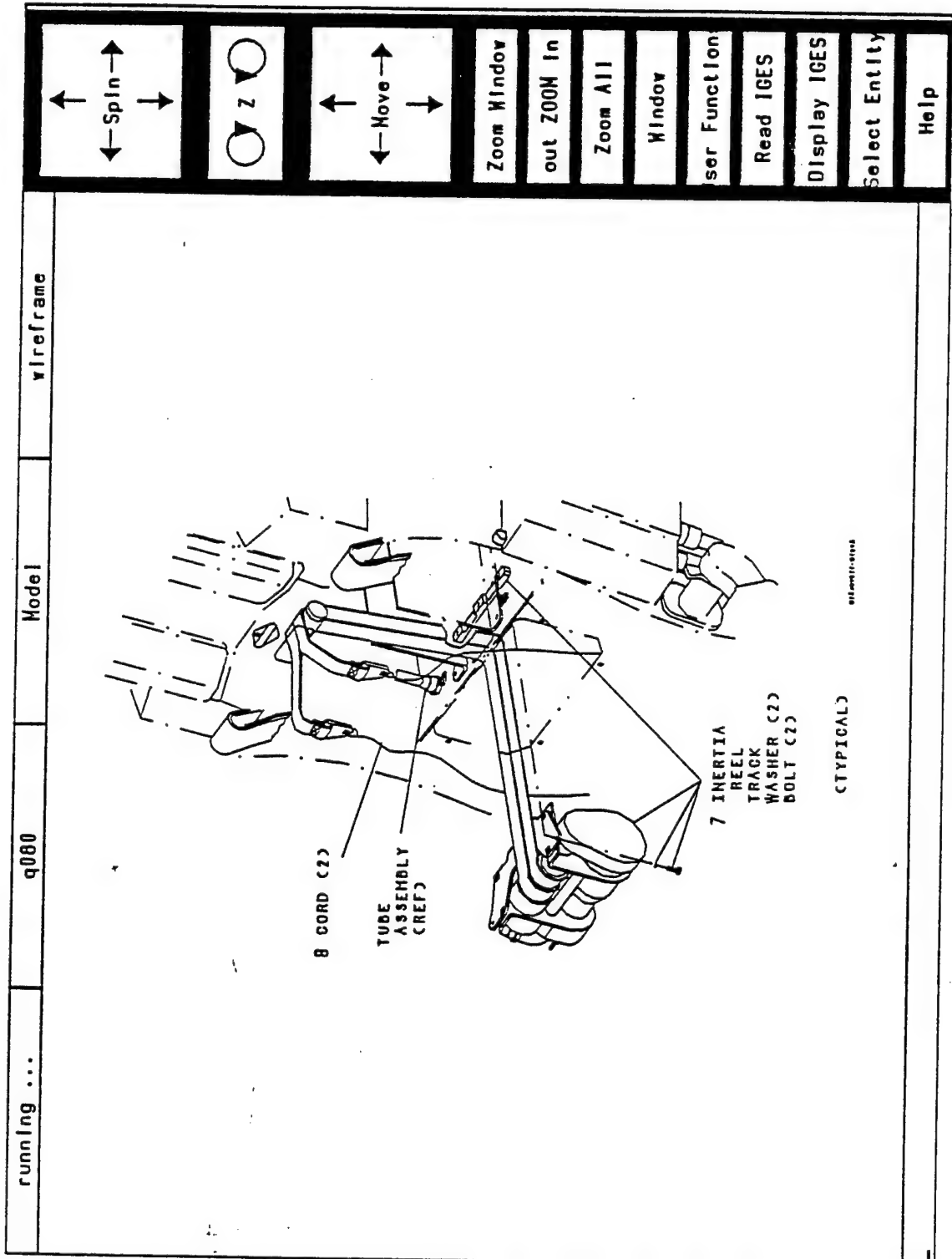
10.2.2 Output Cadkey v4.06



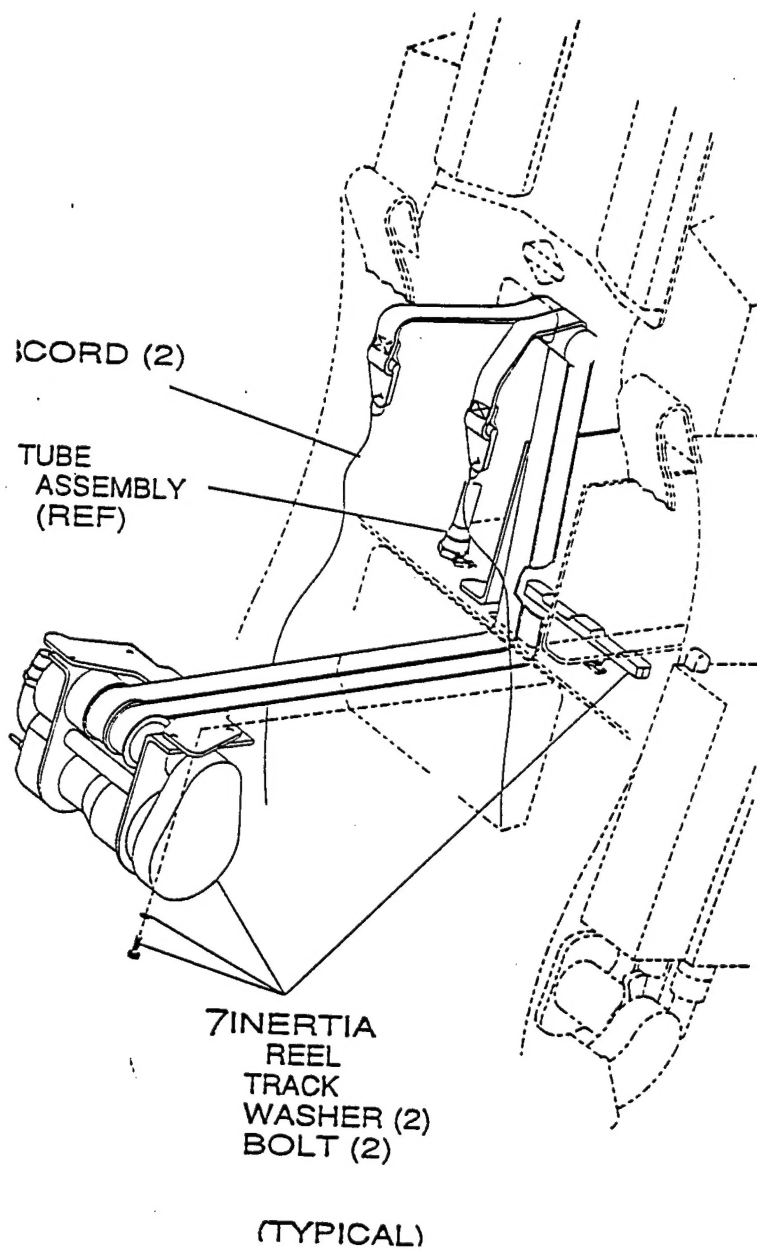
10.2.3 Output IGESView



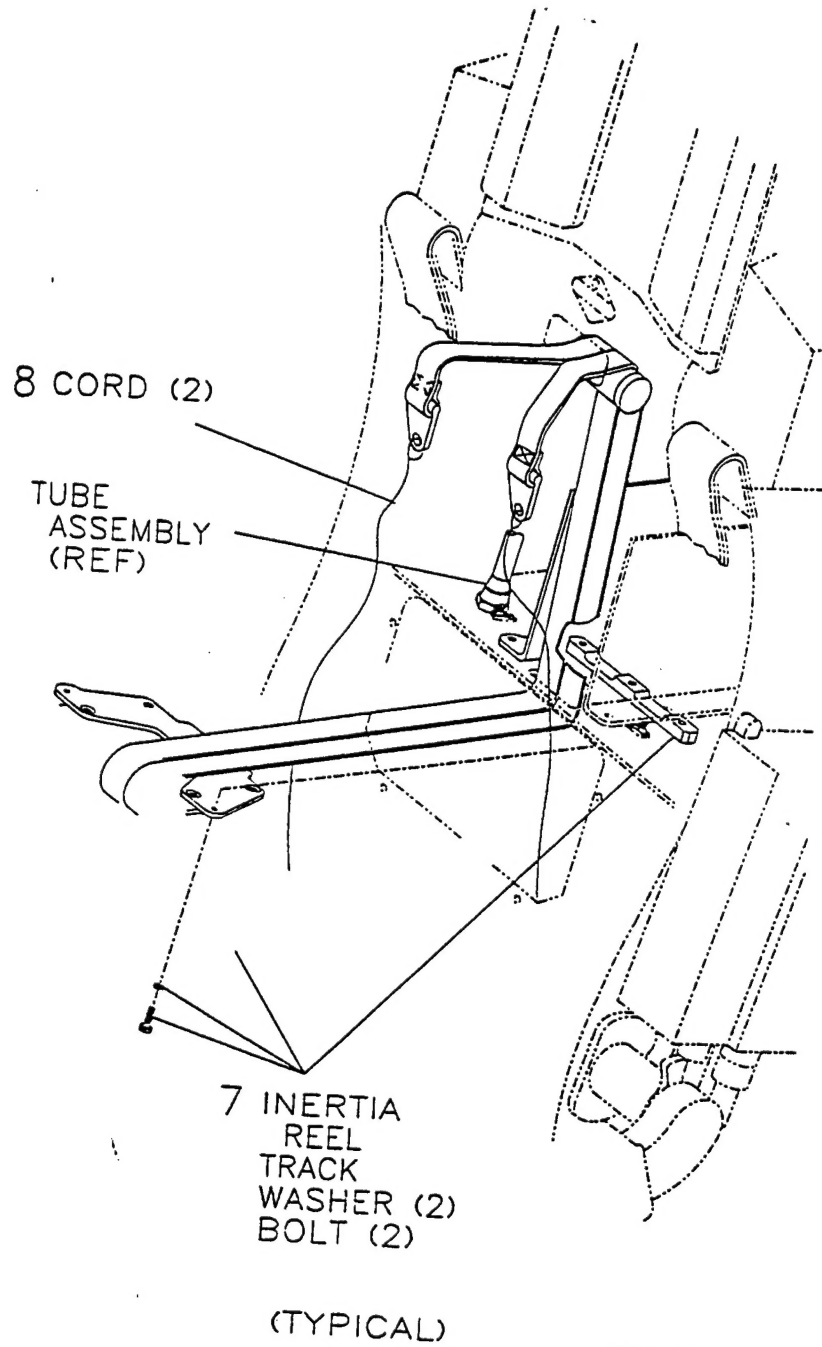
10.2.4 Output IGESWorks



10.2.5 Output Island Draw



10.2.6 Output Preview



10.2.7 Prepare Error Log - D001Q002-D001Q080

Below are one sample of the error messages reported by Prepare during the conversion process. Every DE section reported the same error.

FILE D001Q002

```
-----
>> WARNING: Line weight index out of range. (Set to 0)
      : Reading entity #5, DE entry #9 type LINE.
      : Line Weight field of the DIRECTORY ENTRY section.
110      1      0      1      0
      ^^^^^^^
-----
```

FILE D001Q080

```
-----
>> WARNING: Line weight index out of range. (Set to 0)
      : Reading entity #5, DE entry #9 type LINE.
      : Line Weight field of the DIRECTORY ENTRY section.
110      1      0      1      0
      ^^^^^^^
-----
```

11. Appendix C - Detail SGML Analysis

11.1 ArbortText Parser Log

No reported errors.

11.2 Datalogics Parser Log

No reported errors.

11.3 Exoterica Parser

No reported errors.